UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,556	06/23/2003	Timothy S. Milliron	021751-001610US	1250

			EXAMINER
20350	7590	09/20/2006	CHOW, JEFFREY J

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

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2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-40* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 15 August 2006 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 21 - 40 have been considered but are moot

in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 21 - 31 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter. Claims that consist solely of data manipulation do not fall under

statutory matter because no tangible result is produced. An invention must be a "useful process,

machine, manufactured, or composition of matter, or any new and useful improvement thereof".

An invention must produce a concrete, useful, and tangible result. Displaying the plot on a

screen produces a tangible result.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21 – 26 and 28 – 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Ahlquist, Jr. et al. (US 6,459,439).

Regarding independent claim 21, Ahlquist, Jr. discloses a letter M being deformed (Figure 1), which reads on the claimed receiving information specifying the undeformed model. Ahlquist, Jr. discloses a selected location along a path 21a that is pulled to a desired location 21b (column 5, lines 10 – 13 and Figures 2a, 2c, 2e, and 2g), which reads on the claimed receiving a set of feature specifications, each feature specification comprising a source feature and a target feature. Ahlquist, Jr. discloses different tools that would deformed the model, such as step function (column 6, lines 11 – 19) or a cosine function (column 6, lines 4 – 12) or user defined function (column 6, lines 21 – 24), which reads on the claimed receiving, independent of the set of feature specifications, a set of transformations for mapping the source feature to the target feature in each feature specification in the set of feature specifications. Ahlquist, Jr. discloses length that controls the scale of the tool (column 5, lines 10 – 48), which reads on the claimed receiving a set of strength fields defined over the undeformed model for scaling the magnitude of transformations in the set of transformations to generate a set of scaled transformations. Ahlquist, Jr. discloses strength settings (column 7, lines 55 – 66), which reads on the claimed

receiving, independent of the set of strength fields, a set of weighting fields defined over the

underformed model for determining the relative influence of the set of scaled transformations.

The length and the strength are determined independent from each other as the length is the

distance of the tool travel (column 3, lines 15 – 36) and the strength can be set by keys from the

keyboard (column 7, lines 61 – 66) and the start location and the end location are independent

from the transformation function as the user can selected the desired transformation function

(column 3, lines 15 – 36). Ahlquist, Jr. discloses the deformed model of the letter M by the use

of the start point to the end point, the length, the strength, and the transformation function

(Figures 2a – 2h, 3a – 3j, and 4a – 4k), which reads on the claimed generating the deformed

model using a graphical warp through transformation of the undeformed model to the deformed

model by applying the set of transformation, the set of strength fields, and the set of weighting

fields to the undeformed model.

Regarding dependent claim 22, Ahlquist, Jr. discloses path 10 at location 21a out to 21b

(column 15, lines 20 – 30), which reads on the claimed set of feature specifications comprises a

first feature specification comprising a source feature identifying a source position of a

continuous feature and a target feature identifying a target position of the continuous feature.

Regarding dependent claim 23, Ahlquist, Jr. discloses a tool that is a step function that

modifies the path to look like a layered wedding cake (column 6, lines 19 – 24), which reads on

the claimed set of feature specifications comprises a first feature specification comprising a

source feature identifying a source position of a discrete feature and a target feature identifying a

target position of the discrete feature.

Regarding dependent claim 24, Ahlquist, Jr. discloses path 10 at location 21a out to 21b (column 15, lines 20 – 30), which reads on the claimed set of feature specifications comprises a first feature specification comprising a source feature identifying a source position of a feature point and a target feature identifying a target position of the feature point.

Regarding dependent claim 25, Ahlquist, Jr. discloses representing the path in an XY parameters (column 9, line 61 – column 10, lines 19) and the system could be used for 3-dimensional computer graphics, as well as motion or animation graphics (column 5, lines 6 – 9) where it is inherent that animation have consecutive images or frames, which reads on the claimed set of feature specifications comprises a first feature specification comprising a source feature identifying a source coordinate frame and a target feature identifying a target coordinate frame.

Regarding dependent claim 26, Ahlquist, Jr. discloses a path 10 (column 15, lines 20 – 30 and Figures 2a – 2h), which reads on the claimed set of feature specifications comprises a first feature specification comprising a source feature identifying a source curve and a target feature identifying a target curve.

Regarding dependent claim 28, Ahlquist, Jr. discloses path 10 at location 21a out to 21b (column 15, lines 20 – 30) and a tool that is a step function that modifies the path to look like a layered wedding cake (column 6, lines 19 – 24), which reads on the claimed set of feature specifications comprises a first feature specification comprising a source continuous feature and a target continuous feature and a second feature specification comprising a source discrete feature and a target discrete feature.

Regarding dependent claim 29, Ahlquist, Jr. discloses the pressure being added to the

length and the difference in pressure affects the deformation of the object (column 6, lines 25 –

35), which reads on the claimed computing a sum of the set of scaled transformations weighted

by the set of weighting fields, for deforming the undeformed model to generate the deformed

model. The sum of the pressure and the length reads on the claimed sum. The pressure and the

length reads on the claimed set of scaled transformations weighted by the set of weighted fields.

Regarding independent claims 30, 32, 34, 37, 39, and 40, claims 30, 32, 34, 37, 39, and

40 are similar in scope as to claim 21, thus the rejections for claim 21 hereinabove is applicable

to claims 30, 32, 34, 37, 39, and 40. Ahlquist, Jr. discloses processor and a memory (column4,

line 62 – column 5, line 6), which reads on the claimed processor and the claimed memory

coupled to the processor, the memory configured to store a plurality of instructions executable by

the processor. Ahlquist, Jr. discloses pressure parameter range from 0 and up (column 6, lines 25

– 35) and a strength field ranging from 0% - 100% (column 8, lines 16 – 25), which reads on the

claimed parameter set.

Regarding dependent claims 35 and 36, claims 35 and 36 are similar in scope as to claims

22 and 23, thus the rejections for claims 22 and 23 hereinabove is applicable to claims 35 and 36.

Regarding dependent claims 31, 33, and 38, Ahlquist, Jr. discloses users can input

different transfer functions, such as the equation 1 stated where the function is parametized by D

and length (column 6, lines 4 – 24), which suggests the claimed set of transformations comprises

parameterized transformation. Ahlquist, Jr. discloses the length, pressure, and strength can be

inputted through a keypad or determined through a pressure sensitive tablet (column 3, lines 15 –

35 and column 7, lines 61 – 66), which suggests the claimed determining comprises applying a

sampling function to the set of parameterized transformation, the set of strength fields, and the

set of weighting fields to generate a set of discretized transformations, a set of sampled strength

fields, and a set of sampled weighting fields and the claimed determining the deformation

function comprises computing the deformation function using the set of discretized

transformations, the set of sampled strength fields, and the set of sampled weighting fields.

Ahlquist, Jr. discloses manipulation of Bezier curve (column 8, lines 54 – 67 and column 9, line

61 – column 10, line 19) and noted that Bezier curves can be represented in parametric form

(column 1, lines 25 – 39).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlquist, Jr. et al.

(US 6,459,439).

Regarding dependent claim 27, Ahlquist, Jr. discloses the system could be used for 3-

dimensional computer graphics, as well as motion or animation graphics (column 5, lines 6 – 9),

which suggests and reads on the claimed feature specification comprises a first feature

specification comprising a source feature identifying a source surface and a target feature

identifying a target surface. It would have been obvious for one of ordinary skill in the art at the

time of the invention to modify Ahlquist's system by manipulation 3-D surfaces. One would be

motivated to do so because this would allow manipulation of computer graphic objects and editing tools that allow the reshaping of surfaces that comprise the graphics objects.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey J. Chow whose telephone number is (571)-272-8078. The examiner can normally be reached on Monday - Friday 10:00AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER